

REMARKS

The Examiner is thanked for the thorough examination of the present application. The FINAL Office Action, however, continued to reject all claims 1-16 and 20-23. Specifically, the FINAL Office Action has rejected independent claims 1, 9, and 20 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kitada (US 20030037163) in view of Applicant's admitted prior art (AAPA). Applicant respectfully disagrees and submits the following distinguishing remarks.

Specification Amendments

Applicant has amended two paragraphs of the specification to correct minor typographical errors.

Fundamental Distinction of Claims over Rejections

Before discussing the specific rejections, Applicant notes that there is a fundamental distinction between the claimed embodiments of independent claims 1, 9, and 20 (and therefore all claims) and the cited art. In this regard, each of these claims defines a method for fragmenting an incoming packet into two outgoing packets. The payload of the incoming packet is divided across the two outgoing packets. A significant feature of the claimed embodiments is that the majority of the payload of the incoming packet is embodied in the second outgoing packet.

In view of the claims amendments made in Applicant's previous amendment, the rejections should be withdrawn. In this regard, the rejection embodied in the present Office Action is based on a misplaced application of the law surrounding "design

choice.” Specifically, the Office Action admitted that, even if the combination of Kitada and AAPA could be properly combined, the resulting combination still fails to disclose the claimed feature that the second packet embodies the majority of the packet. To address this admitted deficiency of the prior art, the Office Action alleged that “The choice, of which size packet – the larger or the smaller packet – is transmitted first, is a design choice. A person having ordinary skill in the art would recognize that transmitting the smaller or larger packet first would be obvious to try, since there are only two options present.” Such a rejection constitutes error.

The rejections in Office Actions must follow the requirements of the MPEP, and MPEP 2144.04 requires: "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." (*citing Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984)).

The fact that the claimed embodiments specify that the second packet embodies a majority of the packet payload is not an arbitrary claim requirement. Indeed, this very feature was the central feature of the present application, in distinguishing the admitted prior art (see Figs. 2 and 3 of the present application in comparison to the inventive embodiment of Figs. 4 and 5). A significant benefit to this feature is a better utilization of buffers that are internal to the gateway units 112 and 114. Indeed,

Specifically, paragraph [0021] of the original application explains:

... At this point, the information stored in the first buffer (Buffer 1) is no longer needed and can be freed for use in storing a next incoming packet. Continuing, the next 128-bytes of Fragment 2 stored in the second buffer (Buffer 2) are transmitted. As soon as the data in the second buffer (Buffer

2) has been transmitted, Buffer 2 can be freed for use. This process continues for the remaining buffers (Buffer 3 to Buffer 12) with each buffer being freed immediately after having its data transmitted. ***This is more efficient than the prior art, which requires the information in all the buffers to be stored until the data in the last buffer has been transmitted.***

That is, by intentionally structuring the payload of the second outgoing packet to be larger than the payload of the first outgoing packet, more efficient utilization of the buffers in the gateway units. As such, it is clear that the relative payload size of the outgoing packets is not arbitrary, and therefore not merely a matter of “design choice.”

For at least this fundamental reason, the rejections of the independent claims should be withdrawn. For at least the same reasons, all claim rejections should be withdrawn. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Discussion of Specific Rejections

For completeness, Applicant submits the following additional discussion, with respect to the specific rejections. As an initial comment, the fundamental distinction discussed above applies to all rejections. In addition, the distinctions noted in Applicant’s previously filed response are also relevant, and are incorporated herein by reference.

Independent claim 1 recites:

1. A method for fragmenting an incoming packet for transmission as a first outgoing packet and a second outgoing packet, the method comprising:
 - storing a payload of the incoming packet in a plurality of storage units beginning in a first storage unit;
 - transmitting the first outgoing packet being formed according to a predetermined portion of the payload stored in the first storage unit; and
 - after transmitting the first outgoing packet, transmitting the second outgoing packet being formed according to a remaining portion of the payload stored in the storage units;

wherein the remaining portion corresponds to a majority of the payload of the incoming packet.

(*Emphasis added*). Claim 1 patently defines over the cited art for at least the reasons that the cited art fails to disclose the features emphasized above.

The Office Action admitted that neither Kitada or AAPA discloses the emphasized feature that the remaining portion corresponds to a majority of the payload of the incoming packet. Instead, the Office Action merely alleged that this feature embodies a variant that is an obvious design choice. As explained above in this response, this feature is an intentional design feature that achieves improved buffer utilization in the gateway units. The Office Action has advanced no objective or supporting rationale for its “design choice” allegation, and as also noted above, MPEP 2144.04 requires more supporting rationale than that provided in the Office Action. Accordingly, the rejection of claim 1 should be withdrawn.

As a separate and independent basis for the patentability of claim 1, Applicant submits that the combination of Kitada and AAPA is improper and therefore does not render the claim obvious. In this regard, the Office Action combined Ko with Miyahara to reject the claims on the solely expressed basis that “it would have been obvious ... to implement Kitada’s IP data encapsulation in accordance with PPPoE protocol.” (see e.g., Office Action, p. 4)

This rationale is both incomplete and improper in view of the established standards for rejections under 35 U.S.C. § 103.

In this regard, the MPEP section 2141 states:

The Supreme Court in KSR reaffirmed the familiar framework for determining obviousness as set forth in *Graham v. John Deere Co.* (383 U.S. 1, 148 USPQ 459 (1966))... As reiterated by the Supreme Court in KSR, the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere*

Co., 383 U.S. 1, 148 USPQ 459 (1966). Obviousness is a question of law based on underlying factual inquiries. The factual inquiries enunciated by the Court are as follows:

- (A) Ascertaining the differences between the claimed invention and the prior art; and
- (B) Ascertaining the differences between the claimed invention and the prior art; and
- (C) Resolving the level of ordinary skill in the pertinent art.

In addition:

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

As reflected above, the foregoing approach to obviousness determinations was recently confirmed by the United States Supreme Court decision in KSR INTERNATIONAL CO. V. TELEFLEX INC. ET AL. 550 U.S. 1, 82 USPQ2d 1385, 1395-97 (2007), where the Court stated:

In *Graham v. John Deere Co. of Kansas City*, 383 U. S. 1 (1966), the Court set out a framework for applying the statutory language of §103, language itself based on the logic of the earlier decision in *Hotchkiss v. Greenwood*, 11 How. 248 (1851), and its progeny. See 383 U. S., at 15–17. The analysis is objective:

“Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” *Id.*, at 17–18.

Indeed, as now expressly embodied in MPEP 2143, “[t]he **key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the**

claimed invention would have been obvious. The Supreme Court in KSR noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.” (*Emphasis added, MPEP 2143*). “Objective evidence relevant to the issue of obviousness ***must*** be evaluated by Office personnel.” (MPEP 2141). “The key to supporting any rejection under 35 U.S.C. 103 is the ***clear articulation of the reason(s)*** why the claimed invention would have been obvious. The Supreme Court in KSR noted that the analysis supporting a rejection under 35 U.S.C. 103 ***should be made explicit.*** The Court quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), stated that ‘[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.’” (MPEP 2141).

Simply stated, the Office Action has failed to at least (1) ascertain the differences between and prior art and the claims in issue; and (2) resolve the level of ordinary skill in the art. Furthermore, the alleged rationale for combining the references is merely an improper conclusory statement that embodies clear and improper hindsight rationale. As noted above, the alleged motivation for combining AAPA with Kitada was “to implement Kitada’s IP data encapsulation in accordance with PPPoE protocol.” This allegation is clearly misplaced and further embodies improper hindsight reconstruction.

In this regard, AAPA acknowledges that the prior art involves a PPPoE protocol. Indeed the present invention (as embodied in claim 1) is much more similar to AAPA than it is to Kitada. As such, the application of Kitada as a principal reference is misplaced. Further, the invention defined in claim 1 uses a similar protocol to AAPA (not Kitada), except that the incoming packet payload is split between two outgoing packets, with the smaller portion of the payload being transmitted in the first outgoing packet. As

admitted by the Office Action, Kitada does not teach this feature, and therefore, Applicant submits that there would be NO motivation for an artisan to combine any teaching from Kitada with AAPA. As such, the Office Action fails to set for the required objective indicia appropriate to support the rejection.

For at least these additional reasons, Applicant submits that the rejection of claim 1 is improper and should be withdrawn.

With regard to independent claims 9 and 20, these claims recite:

9. A method for fragmenting an incoming packet for inclusion in a first outgoing packet and a second outgoing packet, the method comprising:
storing a payload of the incoming packet as a first fragment and a second fragment in a plurality of storage units;
including the first fragment in the first outgoing packet; and
after including the first fragment in the first outgoing packet, including the second fragment in the second outgoing packet;
wherein the second fragment corresponds to a majority of the payload of the incoming packet.

20. A method for fragmenting an incoming packet for transmission as first and second outgoing packets, the method comprising:
storing payload of the incoming packet in a storage unit;
transmitting the first outgoing packet being formed according to a predetermined portion of the payload stored in the storage unit; and
after transmitting the first outgoing packet, transmitting the second outgoing packet being formed according to a remaining portion of the payload stored in the storage unit;
wherein the size of the second outgoing packet is larger than that of the first outgoing packet.

(*Emphasis added*). Claims 9 and 20 patently define over the cited art for at least the reasons that the cited art fails to disclose the features emphasized above.

In all relevant respects, the rejections of claims 9 and 20 are similar to the rejection of claim 1, and claims 9 and 20 define over the cited art for the same reasons

as claim 1. Insofar as all remaining claims depend from either claim 1, claim 9, or claim 20, all rejections should be withdrawn for at least the same reasons.

CONCLUSION

For at least the foregoing reasons, it is submitted that this application is in condition for allowance and such a notice, with an allowance of all claims is earnestly solicited. If the Examiner believes that a conference would be of value in expediting the prosecution of this application, the Examiner is hereby invited to telephone the undersigned counsel to arrange for such a conference.

No fee is believed to be due in connection with this Amendment and Response to FINAL Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

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